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DECEMBER 28, 2001

Which Industries Will Adopt Web Services?

Firms will use Web services to make low-cost partner connections, link internal apps, and engage new partners -- but every industry will use a different mix. High-tech firms will use the technology first to publish and consume critical supply chain data.

Leading firms are already applying Web services to activities like order fulfillment and inventory alerts (see the December 2001 Forrester Report “The Web Services Payoff”). In the next five years, firms will expand their use of partner, private, and public Web services (see the October 31, 2001 Forrester Brief “Executive Overview: Web Services”). How appropriate will each of these models be to a given industry (see Figure 1)?

- **Complex industries will deploy partner services.** Highly fragmented industries with complex products like electronics will benefit the most from partner-centric Web services. Why? Because Web service connections reduce the friction that exists in translating and passing information between multiple tiers of supply chain partners. But for more concentrated or less complex supply chains, existing investments in EDI or extranet connections will meet the needs of most firms.
- **Introverted industries will focus on private connections.** For industries like financial services that use a mix of packaged and custom apps and homegrown integration to share data, private Web services provide low-cost, app-to-app connections. In contrast, supply chains like oil and gas that rely more heavily on integration servers from vendors like webMethods can upgrade their servers to support Web service protocols like SOAP when the need arises.
- **High-velocity industries will embrace public Web services.** Industries operating in markets with short product life cycles and low barriers to entry -- like marketing and consulting services -- will use public Web services to quickly engage, collaborate, and then disengage partners on an ad hoc basis. But, in industries like aerospace where long product life cycles mean that relationships are more static, public Web services will have little impact.

Figure 1 Firms Will Use Partner, Private, And Public Web Services

	Partner	Private	Public
What it is:	Connects known customers, partners and remote business units	Integrates internal custom and legacy applications for a single enterprise	Provides a directory to find and engage new partners
Key benefits:	Provides low-cost B2B connections and better information flow between partners	Provides a standard for internal application integration and data aggregation for services	Provides a directory to discover new partners and collaborate on an ad hoc basis
Where it applies:	<ul style="list-style-type: none"> • Highly fragmented supply chains • Complex products • Limited connectivity between smaller firms 	<ul style="list-style-type: none"> • Many internal systems • Numerous locations • Reliance on legacy homegrown integration solutions 	<ul style="list-style-type: none"> • Short product life cycle • Low barriers to entry • Dynamic business relationships

Source: Forrester Research, Inc.

INDUSTRIES WILL EMPHASIZE DIFFERENT WEB SERVICE MODELS

Firms will use a mix of partner, private, and public Web services -- driven by the characteristics of their industry (see Figure 2).

- **Computing/electronics will integrate supply chain partners.** The computing and electronics industries will adopt partner Web services to share constantly changing information -- like production status and inventory data -- with a complex multitiered network of supply chain partners. Firms like Motorola will publish manufacturing schedules for large partners like Texas Instruments and small suppliers like Elitetron Electronics with equal ease.
- **Financial services will connect internal systems to fuel customer self-service.** The financial services industry will use private Web services to integrate legacy homegrown apps, complex data sources, and customer channels. Firms like FleetBoston Financial will provide customers with a single point of secure access -- and the firm with a single view of that customer -- across banking, investment, and insurance services via the Web, in branches, and through the call center.
- **CPG firms will manage the demand chain.** Consumer packaged goods companies will use partner and private Web services to manage demand chain relationships (see the December 2001 Forrester Report “Collaborating For CPG Success”).

Figure 2 The Impact Of Web Services On The Supply Chain

	Partner	Private	Public	Comments
Aerospace and defense	Medium	Medium	Low	Partner Web services help spare parts and replacements move between firms
Business services	Low	Low	High	Marketing and consulting services will use public Web services to find and be found by customers
Computing and electronics	High	Medium	Medium	Firms will exchange live supplier and producer data to manage inventory and cash flow
Construction	Medium	Medium	Medium	Public Web services will help a fragmented industry sell used equipment and surpluses
Consumer packaged goods	High	High	Low	Big investments in B2B integration for 2002 will fuel partner services at lower cost
Financial/insurance services	Medium	High	Medium	Financial institutions will use private Web services to integrate channels and products
Food and agriculture	High	Medium	Low	Distributors provide Web services to producers to expand growth of high-margin crops and improve profitability
Industrial equipment	Medium	Low	Low	Partner Web services will ease parts and spares sales and distribution
Motor vehicles	High	Medium	Low	Large OEMs use partner services to connect with distributors, dealers, and customers
Paper	High	Medium	Medium	Fragmented buyer markets drive producers to extend partner Web services
Petroleum and chemicals	Medium	Low	Low	Large distributors publish partner Web services to automate invoicing with refiners
Telecom	Medium	High	Low	Private Web services will bundle services for customers from a single venue
Transportation	Medium	Medium	High	The need to manage shipping capacity in real time will drive public Web services
Utilities	Low	Medium	Medium	Utilities won't use many partner services because exchanges like ICE provide energy trading contract services

Source: Forrester Research, Inc.

How? Firms like Procter & Gamble will connect their internal apps with retailers like Wal-Mart to coordinate shipments based on live point-of-sale data.

- **Business services will wait for public Web services.** Service-oriented industries like legal and consulting services will need to assemble a set of services -- like marketing or fulfillment -- to meet customer demand for short-term engagements. To expose capabilities to new clients, firms like H&R Block must wait for standards like UDDI to take hold before they can offer up real-estate tax calculators that plug directly into an automated tax return.

WEB SERVICES WILL SHAKE UP THE TECHNOLOGY MARKET

The emergence of Web services will mean that:

- **Private hubs will deliver Web services.** Global 3,500 firms can expect to spend about \$7 million on a private hub to enhance visibility and improve supplier collaboration (see the July 2001 Forrester Report “Spending Wisely On Private Hubs”). To reduce the cost and time required to connect new partners and add more sophisticated functions like demand forecasting, firms like Hewlett-Packard will augment their private hubs with tools like Bowstreet’s Web Factory -- creating services customized to the needs of any partner.
- **Revenues will dry up for integration vendors.** Integration software vendors count on proprietary application interfaces for their bread and butter -- acting as translator between incompatible systems. But Web service connections will eliminate the revenue model used by most integration vendors, which charge as much as \$70,000 for a single SAP adapter (see the December 2001 Forrester Report “Reducing Integration’s Cost”). The result? Vendors like Vitria and SeeBeyond will shift their sales pitch and business model to support the Web services wave.